

REMARKS

Claims 1-14 are pending in the application. Claims 1-6, 8, 10, 12, and 13 were rejected and claims 7, 9, 11, and 14 were objected to. No claims were cancelled or amended herein. The applicant requests reconsideration of the rejections.

The specification has been amended herein to correct typographical errors wherein the word "note" was used instead of "node". No new matter was added by this amendment.

I. **Rejection of Claims 1-5, 6, 8, 10, 12, and 13 Under 35 U.S.C. §103(a)**

Claims 1-5, 6, 8, 10, 12, and 13 were rejected under 35 U.S.C. §103(a) as being unpatentable over the prior art disclosed by the applicant on Fig. 2 and Hauptmann (U.S. 7,012,979).

CLAIM 1

Claim 1 is printed as follows for convenience:

A method of injecting an AC pilot tone into a digital signal comprising:
setting the power of said digital signal via a digital-to-analog converter
having a reference input for connection to a DC reference signal ; and
injecting said pilot tone into said reference input **of said digital-to-analog converter**.
(emphasis added)

According to the office action, Hauptmann teaches the use of an AC signal combined with a reference signal prior to the input to a converter at Fig. 2 and column 2, lines 11-18 and 31-45.

Hauptmann, however, describes an analog to digital converter, not a digital to analog converter. Accordingly, Hauptmann teaches a device wherein analog signals are input and numbers are output. Claim 1, on the other hand, recites a digital to analog converter, which, in the configuration recited in claim 1, inputs digital signals and outputs modulated analog signals. Analog to digital converters function completely different than digital to analog converters and, thus, the devices are not equivalent and it is not obvious to substitute one for another.

In addition to the combination of references failing to disclose all the elements of claim 1, there is no motivation for the combination. According to the office action, one would be motivated to substitute the digital to analog converter of the applicant's prior art for the analog to digital converter of Hauptmann.

The analog to digital converter of Hauptmann is described at column 6, lines 43-58. In summary, the output of the converter is a number representative of a single tone, which is indicative of a tone being detected. The digital to analog converter of claim 1 produces a biased and modulated analog signal, which, by its nature, does not contain a single tone, or any numbers. Accordingly, there is no motivation to combine the injection of a pilot tone into a digital signal as claimed with the tone signal detection circuit of Hauptmann as they are completely different circuits completely different devices.

Based on the foregoing, the references taken individually or in combination cannot disclose all the elements of claim 1 and cannot render claim 1 obvious.

CLAIMS 2-5 AND 6

Claims 2-5 and 6 are dependent on claim 1 and are deemed allowable by way of their dependence and for other reasons. Therefore, the applicant requests reconsideration of the rejections.

CLAIM 8

Claim 8 is independent and is printed as follows for convenience:

A device for injecting an AC pilot tone into a digital signal, comprising:
a digital-to-analog converter wherein the power of said digital signal is set by said digital-to-analog converter said digital-to-analog converter having a reference input for connection to a DC reference signal ; and
a source of said pilot tone, said source being arranged to inject said pilot tone into said reference input of said digital-to-analog converter.

Claim 8 was rejected on the same grounds as claim 1. Therefore, the applicant incorporates the rebuttals to the rejection of claim 1 into this rebuttal of the rejection of claim 8. More specifically, claim 8 recites a digital to analog converter and Hauptmann, on the other hand, teaches an analog to digital converter. Thus, the references, taken individually or in combination do not disclose all the elements of claim 8.

Furthermore, there is no motivation for the combination of the applicant's prior art and Hauptmann. As stated above, Hauptmann discloses detecting a tone. The applicant's prior art is related to injecting a pilot tone into a digital signal. There is no motivation for such a combination.

Based on the foregoing, the references cannot render claim 8 obvious and the applicant requests reconsideration of the rejection.

CLAIMS 10, 12, AND 13

Claims 10, 12, and 13 are dependent on claim 8 and are deemed allowable by way of their dependence and for other reasons. Therefore, the applicant requests reconsideration of the rejections.

II. Objection to Claims 7, 9, 11, and 14

Applicants appreciate the indication that claims 7, 9, 11 and 14 would be allowable if rewritten in independent form including all the limitations of the base claim and any intervening claims. However, Applicants believe that these claims are patentable as they stand for the reasons stated above.

In view of the above, all of the pending claims are now believed to be in condition for allowance and a notice to that effect is earnestly solicited.

Respectfully submitted,
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